



The Atari Beacon Journal

Newsletter of A.C.C.T. & N.A.C.E

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INSIDE:

INFO ON:

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PROGRAMMING HELP

CONSOLE KEY PROGRAMMING
...From ATARI8 SIG*...
by Keith Joins

This short file will give you the basic information needed to use the OPTION, SELECT, START, and HELP keys in your programs. The HELP key is of course only available on the XL/XE series and not on the older 400/800 machines.

The first three of these keys are controlled by memory location 53279 (\$D01F). Peeking this location will return various values depending on the key or combination of keys pressed according to the following table:

KEY(S)	VALUE RETURNED
=====	
All three	0
OPTION+SELECT	1
OPTION+START	2
OPTION	3
SELECT+START	4
SELECT	5
START	6
No key pressed	7

To test this out RUN the following short basic program.

```
10 PRINT PEEK(53279)
20 GOTO 10
```

While this program is running press various combinations and see what value is printed to the screen. Notice that the value for a given key is returned only while that key is depressed. When you release the key, the value returned goes back to seven. This is because the Operating System updates this location every stage two VBI. You don't have to know what the VBI procedure does, just realize that you do not have to clear this location in order to use it again. When you are finished with this little program, just press the BREAK key to stop it.

Another thing to understand is that pressing the consol keys will never cause the Operating System to generate an interrupt as happens when you press a regular key. You would have to create and install your own interrupt to do this. A possible application for this would be to use these keys to toggle output between the screen and the printer. This could be done as part of the VBI routine or by using the software timers at memory locations 536 to 558. Again this information is

not needed to use these keys in your programs.

Now a short example of the use of these keys in a Basic program:

```
100 OPTION=3:SELECT=5:START=6
110 PRINT "PRESS START TO BEGIN"
120 PRINT "PRESS SELECT TO RERUN"
130 PRINT "PRESS OPTION TO GOTO DOS"
140 CHOICE=PEEK(53279)
150 IF CHOICE=START THEN GOTO 200
160 IF CHOICE=SELECT THEN RUN
170 IF CHOICE=OPTION THEN DOS
180 GOTO 140
200 Your program
```

Line 180 is needed to in order to force the program to repeat the choice selection process until a consol key is pressed. Any other key press is ignored except that if you could press another key it will be echoed to the screen when a consol key is finally pressed. To prevent this you could add the following:

```
175 POKE 764,255
```

This will clear the register that the keyboard handler gets it data from and prevent the errant key stroke from being echoed to the screen. Memory location 732 (\$2DC), a spare byte in the 400/800 series, is used in the XL/XE series to store the status of the HELP key. A PEEK(732) will return the following values:

KEY COMBINATION	VALUE
=====	
HELP alone	17
HELP+SHIFT	81
HELP+CONTROL	145

The default value of this register is zero. Unlike the consol key register, this one will retain the value stored in it until the user clears it with a POKE 732,0. The operating system pretty much ignores this location except when directed to it under program control. Again no interrupt is generated by this key except a user written one.

The above information should give you enough to use these keys in you own programs. Experiment with their use and soon they will be second nature to you. It is the best way to learn. If you have any further questions, feel free to ask.



NEWSLETTER ARTICLES NEEDED

looking, I'm sure all computer users know that some games just can't be played with a joystick alone. Flight Simulator II, which comes with our XE Game System, needs the keyboard. So do adventure games and most other strategy games.

We can't get stores to carry the 8-bit computers. They won't even sell the software to their existing customers -- for a while software companies had to put the 8-bit programs on the back of the C64 disk to get shelf space at all! But when we showed the XE Game System to the buyers, they were totally enthusiastic.

This is truly marketing in action.

We have something like 50 cartridges in inventory from the old days, and are feverishly working on converting disk games to cartridge. With some clever programming, we can now get 256K of ROM on a cartridge, instead of the 16K in the old games. That's how we got Flight Simulator II *plus* a scenery disk onto a single cartridge. There is nothing different about the XE Game System to make this work -- existing 8-bit computer owners can use the very same cartridges.

So what does this mean to you? In the beginning, all it will mean is that more games will be coming in 8-bit Atari format. But, what we hope is that this will be the springboard to revitalizing the 8-bit Atari computer line. Once the XE Game Systems start selling (and they have just begin arriving in stores this past week), we have a potential market of hundreds of thousands of consumers. At this time Commodore is selling around 300,000 C64's annually. With a market this size, the motivation for software developers to bring out new titles in our format is enormous.

Remember, the XE Game System is totally compatible with your 8-bit computers. Once the customer takes the XE Game System home, they discover in the manual that the system includes the Atari BASIC language and that there is an SIO port for computer peripherals. We expect that people who may have been frightened of computers, or leery of spending the money on a computer with a drive (\$400+) initially, may very well upgrade to a fuller system. And we hope that they will then demand the kind of software that we need to see developed -- serious applications software.

While this is happening, we continue to sell the 8-bit computers. Contrary to some published reports, we cannot simply remove the motherboard from the 65XE's and put them in the Game Systems. It's a different board. So, we still have the large inventory of computers. And we expect that smart Atari dealers will use the advertising campaign for XE Game Systems and sell the computers as a compatible alternative. "Why," they might ask a customer, "should you spend \$150 when you can buy the system ala carte, with a computer for \$99 in a more compact case and then buy whatever software you want?"

Lets all hope this works. Atari has tried just

about everything in our power to keep the 8-bit computer line going. This is probably our best shot.

One last fact -- for our customers in areas where there are Federated stores, Jack Tramiel has said that these stores will carry a full line of Atari 8-bit computers. So availability should be a whole lot better in California, Texas, Arizona, and Kansas.

Thanks for giving me the time to explain in much more detail than I can online. We've been through some tough times together. Please try to keep the faith and bear with us just a little longer while we get the 8-bit situation straightened out.

Best regards,
Neil Harris

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actually runs the data out to 80 columns and everything!

* Adventure - PD from Lotsa-Bytes. Data runs to 80 columns, but is formatted for 38.

This is a rather dismal list considering all the software that I have. I am sure that many of these programs can be adapted to 80 columns, but for now, the pickings are slim. Anyway, you bought the 80 column card for program development, didn't you? Well..... ANAC is out. So is SynAssembler and ACTION. Even BasicXL fails on the XEP-80 (OSS is supposed to have a fix, but I couldn't find it). What works? Basic, Mac65 and MicroSoft basic.

Now, you're talking!! So, how do they work?? REAL GOOD! The display not only looks good, it even WORKS better. Let me explain. The normal, 40 column display is generated by the ANTIC and GTIA chips in your computer. Your OS puts data in memory that these chips access to use in building the display. This sharing of memory can slow the computer part of your machine way down while the display part of the machine uses your memory. To say that they SHARE memory is not quite true - ANTIC stops the main computer whenever he feels like it, and uses memory as much as he pleases. The only option for the main computer is to disable the ANTIC chip entirely. This increases the speed of your machine about 30%. Of course, you lose all screen function.... Now, with the XEP-80, all screen functions are handled thru the hardware out in the adaptor. With the adaptor clocks and the adaptor processor, and the adaptor memory. All your computer needs to do is send the data once and he is free 100% of the time. Great stuff, eh? Let's try a little test.

```
100 POKE 18,0 : POKE 19,0 : POKE 20,0
110 FOR X = 1 TO 500
120 PRINT PEEK (20) + 256 * PEEK (19) + 65536 * PEEK (18)
130 NEXT X
140 PRINT PEEK (20) + 256 * PEEK (19) + 65536 * PEEK (18)
```

RUN this on a normal Atari. I got 1181, 1188, 1189, 1188, 1189 for five runs.

On an XEP-80, I got 347, 349, 351, 350, 351. !!!
Whoa,,,, that's a whole lot more than 30%!!

See those * in there? Those are stop signs in a Basic program. The math must be very cycle hungry. Let's try it with no math:

```
100 POKE 18,0 : POKE 19,0 : POKE 20,0
110 FOR X = 1 TO 500
120 PRINT PEEK (20)
130 NEXT X
140 PRINT PEEK (20)
```

Without the XEP-80: 2 + 233, 254, and 254
where the 2+ means that the jiffy counter overflowed twice. These are actually counts of 745, 766 and 766.

With the XEP-80: 144, 142 and 141!! (with no overflow).

This still is a lot more than 30%. The PRINT statement must be a lot faster in the XEP-80. Let's pull it out of the loop.

```
100 POKE 18,0 : POKE 19,0 : POKE 20,0
110 FOR X = 1 TO 500
130 NEXT X
140 PRINT PEEK (20)
```

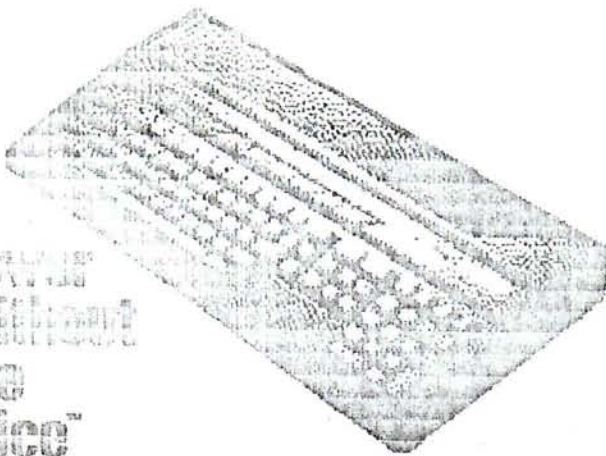
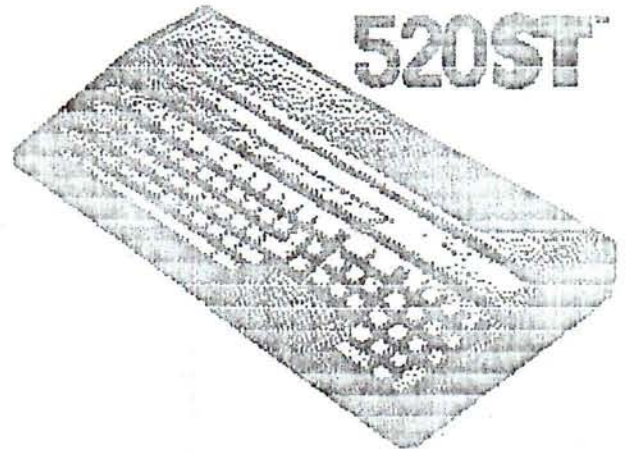
This resulted in 66, 66, 66 and 45, 45, 45. This is what we would expect from offloading the screen overhead to the XEP-80. The tremendous increase in the first two tests is a result of the much faster screen I/O from Basic when using the XEP-80. The slow screen I/O that CIO gives you is a major reason why many programs do not use CIO - it is just too slow. It seems to me that the XEP-80 can make it practical to use CIO, now. How about it, programmers?

So, great, using the XEP-80 gives you a nice clear, 80-column display and it speeds up my CPU. Is it worth it? After using it for awhile, I have found it makes it much easier to work on larger programs since you can see about twice as much code in each screen. The extra speed seems to make the whole machine feel like another computer, making everything flow more smoothly. All of the editing functions work as they did with the 40 column display, so there is not much of a learning curve - with a few exceptions. All in all, this thing is pretty good. If you do anything on your Atari besides shoot Bad Guyz - and it is going to get better and better as more software supports it.

Quirks? A few. Like there is no keyboard buffer. I am used to entering 'A' from the DOS screen and hitting ENTER twice for a Directory. Seems like the first ENTER is read and the screen output started when the second ENTER is entered. The XEP-80 either does not see the second ENTER or ignores it. You have to wait for the screen to finish before the computer will take keyboard input. Along the same line, I will sometimes enter a LIST command and when it looks like the listing is in the region I want, I hit the BREAK key to stop the LIST. I can then edit the lines that are displayed. Forget that!! BREAK does not work while the screen is LISTING. You enter LIST and you get the whole program - period. Unless you want to try RESET. That key will really croak the computer, sometimes. It seems that the XEP-80 gets goofed - up and must be powered off before anything will work again. Never seems to happen for no reason, but I can't be sure what's going to happen if I RESET.

Not a bad box, and destined to get better. Get one. Today.

ST NEWS



AND REVIEWS



SOFTWARE REVIEW

"Star Trek"

Review by Stephane Lavoisard

(ST Magazine - Issue #10)

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Edited and translated by Andre Lafreniere
and Alain Plouffe from FaSTER.

Star Trek was certainly, with Dungeon Master, the most awaited game since with every new computer show, we could observe a new pre-release version. We've finally received it, surrounded by rumours claiming that this was the software of the 1990s. It's thus with excusable eagerness that I threw myself on this program and I might as well tell you that after I started playing, I found it difficult to stop long enough to write this article.

First, the authors have had the excellent idea not to base their scenario on either the films or the series. Hence, it's an original scenario to which they treated us. Since a while back, numerous spaceships are mysteriously disappearing in a certain part of the universe. The Federation has mandated you to go with the Enterprise to resolve this affair. The loading of the program is such that one gets impatient to see the game. Effectively, after only a few seconds, the digitized voice of Captain Kirk sounds: "Space, the final frontier", accompanied with the familiar sound effects, which are followed by the theme (not digitized this time, because this little folly grabs a lot of memory). Might as well tell you that you'll be thoroughly seduced by this grand presentation, accompanied by a superb rendition of the ship. At last, the main game screen appears.

This one is composed of one large display surrounded on two sides with seven smaller screens. The main screen is the flight deck of the Enterprise, digitized for sure, and all the actors of the series are present. If you click on single individuals, their picture appears in the main screen along with the actions he or she is able to accomplish. If the main screen is in one of the mini-screens, all you need to do to bring it back to the main display is to click on it. As you've probably understood, this game is played with the mouse only, which speeds it up and makes access to your information easy.

I click on Sulu, who is the navigator. Three control panels are at his disposition. First, you have the general layout of the area, represented as a spinning 3-D universe which makes it very realistic. You may obtain a zoom view on the regional zone, and even

the local area. You only need to click on a solar system to obtain its name and distance. If you then click on Spock, he will indicate if a system is Romulan, Klingon, or Federation. Click again on Sulu to indicate the cruising speed you want.

I chose to navigate at Warp 10, the maximum speed. After a few moments, the digitized voice of Scotty reminds me: "We must slow down or otherwise the ship will desintegrate!". I thus slow down to Warp 8. I arrive in the Zuner solar system, containing 6 planets. I click on a planet in the view of the system obtained by Sulu, and then on Spock to find out what we can expect here. A digitized voice informs me that a message has just been received. I click on Uhura, who tells me that there is a fleet of over 1000 ennemy ships in the galaxy. Since Zuner is controlled by the Federation, I am almost assured not to make any unfriendly encounters. On Zuner I, an energy station can be found which recharges my energy for navigating between the interior planets of the system. Zuner IV is a repair station which might come in handy if the vessel is attacked. Lastly, Spock informs me that Zuner IV supports life forms. On the Zuner system plan given by Sulu, I click on Zuner IV to get there at full impulse power.

After a few seconds, a beautiful picture of the Enterprise in orbit appears along with a message from Sulu. I click on Scotty who indicates the remaining amount of Warp energy for travelling between systems, and the level of impulse power for travel within systems. Time to click on Kirk, which advises me to teleport 6 or 7 members of the crew on the planet's surface. (Ed: do I need to mention that you have to be somewhat familiar with the series to understand?). The choice is up to you. You'll rapidly discover that having only one person on a planet is near useless. Also select among the equipment found on other planets the one which you will need and then teleport your personel. The digitized sound of the teleportation is amazing (Ed: Woosh!).

Then is the planet surface exploration phase, a primordial aspect of the game, but not with such elaborate graphics as the other parts. The faces of the six crew members are represented along with the object or the person in front of you in wireframe form. According to the nature of the object blocking your way (door, robot, security bomb, etc...) each person suggests a different solution. The doctor often wants to get closer, while Spock will rather use logic, Kirk will often look for hidden mechanisms and Sulu proposes to destroy everything. You're the one choosing an appropriate course of actions. If this works, no problem; you move ahead and get to the following obstacle. If it doesn't work, nothing might happen, or your crew members might be wounded. Teleport yourself back on the Enterprise and click on the doctor who will heal the crew, as indicated with a life bar under the person's figure.

Back on the planet, continue until you find an



ONLINE



GARBAGE ON THE LINE
 ...Life On The Frontier...
 or
 --Roughing-It-Easy--
 by Calamity Jane --CJ--

I am Calamity Jane, OpSys of The Prairie Chip BBS in Wyoming. All of that is just a coincidence... really!! Do you think I planned that? That my life is THAT organized... hardly. Ever heard of Wyoming (Wi-O-ming)? Where the sidewalks end and the West begins and the trail cuts across the lonely prairie. The fierce hostilities of the Arapahoe, Sioux, Shoshone, Cheyenne, and some Ute, have kept our population down, but yes, real people do live here in our many thousands of acres of rolling plains. And we -DO- own computers...

This article has been inspired by my BBS friends in New York City. <hi! guys> I had a message very typical... "So YOU are the one who lives in Wyoming!" very funny... I seem to get a 'hard-time' for being from Wyoming where ever I go... and I have come up with several defense mechanisms... I proceeded to hint on how I run my BBS in such a remote frontier without the usual luxuries of electricity. "How do you read? or watch TV?" I was asked. I mentioned I don't watch much TV, and read by the glow of the monitor. They were intrigued... Thus the reason for this article.

There is such a combination of the old ways and the new in my life, and they are combined in such a way that makes my life quite tolerable, pure and I don't have millions of people around me. Oh, give me a home where the buffalo roam... Yes, the millions of buffalo are gone, but there are a few, and I can count on a small <but rather exciting> Stampede on the average of every couple of weeks. They do, however, continually knock the pole over and pound the open wire <that is the telephone line> into the ground in a cloud of dust. No optic fiber here.

I live in a log cabin. The dictionary calls it a 'small house... rudely constructed. Nothin' rude here, we're friendly folk. It has all the comforts of home. I purify my own water, I use an outhouse, I cook on a woodstove. It supplies warmth and gives me something to constantly be doing. <NO, not the outhouse, the stove !!> Cutting the trees, chopping the wood, hauling the wood, loading the stove, emptying the stove... you get my idea. I burned off my eyebrows and eyelashes once when I poured a dab of kerosene on what I THOUGHT was a dead fire. However, they grew back. I have a beautiful brand-new washing machine that never needs repair. It's

a stick. The motion of the water in combination with soap carries the dirt away. I don't have to listen to the hounding of my clothes either. I have a rare refrigerator that runs on kerosene, few exist though. I have learned to live without the need for everything electric. "Less Power to You!" I not only know how many Desk Accessories you can have per disk, or to forget extended format, but that a kerosene lantern with a 1" wick will burn apx. 45 hours on 1 quart of kerosene at the rate of 5 hours each day <12 gal. a year>. I use tallow rather than wax candles as they burn longer, are brighter, and fairly smoke free. I get 48 hours out of a 1" by 9". They are also free, if you make them. I do not use oleman lanterns as they hiss, clank & blind me, just like civilization. As you can see, electricity is the least of my concerns. Till I bought the computers. Then it became a major concern. But the power lines just ain't reached way-out-here yet !! The wind does blow, mighty hard too; thus the source of power that keeps me in CHAT. I am ala natural, on the great treeless stretches, which roll away as far as the eye can see.

The wind-generator, heck I still call it the windmill, is a noisy, clanky, cus and if the wind doesn't blow <hah!> the batteries won't charge. My first concern is the wind will blow too hard and blow it up. How do I surge protect THAT ?? Still it does keep me up and running and in enough power to keep The Chip waiting for you at 2400 bps. I have considered many ways to gain access to the power to run my computers. I am considering and finding out about high output silicon solar cells and other such solar devices, but right now I'll stick with the good ol wind, and the slow-revving, big fly wheel, last forever, donkey engine. The storage of this energy is a constant pain. It is known as Wind Generator System Storage Problems. The batteries are still a bit of a black art even in this high tech age. The batteries are the common lead acid type used in cars and will last several years. About the only thing I must do to them is check them daily and feed them rain water if needed.

I got tired of traveling 13.2 miles to the nearest neighbor to 'chat', so I talked long and hard... Smooth talkin' Joe finally ambled into town to see if they had any more of "those damn ST machines". Now we chat in comfort without the worry of seeing the elephant, Indian attacks, fierce storms or snakes. I never know when I will hear the war cry and a cloud of arrows. molossi tellin piduwi. It can be on the average of once a week. The phone lines require regular maintenance between the Indians and the buffalo. The Indians love the colored glass from the insulators, so I build boxes to cover them, & paint owls on them <owls are bad luck to an Indian>. Quite often I must pour a bucket of water on the ground rod, this makes for a better connection...you know, less line noise. It's hell running a 24 hour BBS on an eight member party line. It ain't too easy on them either!! Eight of the best callers any SysOp could want.



BUILDING A NULL MODEM

TECHNICAL HELP

A Null Modem For your ST

And now a better way!!!

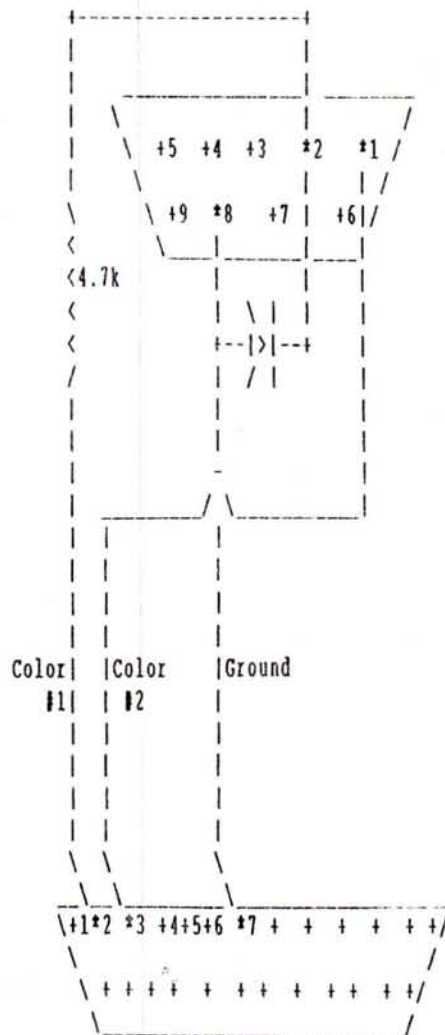
by Mr. Goodprobe

It appears that for every good and needed idea mankind has come up with, someone has added some extra features and labor saving additions that make that device the "thing you can't live without!" Such an item is this little null modem that will allow you to transfer files from your ST to your 8 bit Atari, and to other computers as well. Now I fully well realize that Antic published an excellent article on this very topic a while ago, but their procedure forced the user to have in his possession an interface of some sort for his 8 bit Atari, whether it be a PR Connection, 850 or the like, nonetheless, you had to have this item in your possession or the transfer of data between both computers was impossible. But now I will in a few short paragraphs show you how to accomplish the very same feat without an interface.

What we will be assembling is a skimpy at best data transfer setup that is easy on the olewallet. First you will need:

- 1.) A joystick cable such as used on your favorite alien blaster! This must be complete with the plug on one end.
- 2.) A 25 pin connector to plug in the modem port in the rear of your ST.
- 3.) One 3.9k to 4.7k 1/2 watt resistor 10% tolerance
- 4.) A short run of 3 conductor wire
- 5.) A diode (such as ECG 109 or any small switching signal diode).

As you can see, we are merely connecting the receive data line to the transmit data line on the ST, while at the very same time connecting the transmit data line of the 8 bit Atari to the receive data line of the ST. You will then need to use a term program on the 8 bit that addresses the joystick port, such critters are MPP term, and also the term which came with the Supra series of 1200 baud modems. You can go as fast as the 8 bit program allows, with a ceiling of 9600 baud if someone were to implement faster transfer routines in the aforementioned programs. I have been using this type of setup for several months now...and its a dream!!!



This same basic setup can be used to connect the 8 bit Atari to most any computer out there on the market today, with no difficulties whatsoever.

By the way, you might find it amazing that this entire article this week has been typed, edited, spell-checked and saved to disk..while downloading a 500+ K disk of Music Studio files!! "Sounds like multi-tasking to me" you might comment, and guess what? You are right! I am using a new file protocol .TXF for Interlink called MultiXY, it allows you to download/upload in the background while running your favorite program and doing other more useful things! I started the transfer, and then went to my file menu on Interlink, pulled it down, and clicked on "Execute". I then chose my Word Writer program and loaded it from there, and thats were we are at this very moment! I am able to check the progress of my xmodem or ymodem file transfer by going up to the accessory area of my screen, and viewing the small display located there. It tells me how many blocks have been transfered, and with how many errors. If you show a file, and save to the disk, you get an error, but of course your BBS system will resend that block...Amazln what they are doing now eh? This accessory only works with Interlink 1.71 and up, so unfortunately owners of other programs cannot enjoy this great time saving feature...

Keep those Atari's hummin!

Mr. Goodprobe



A.C.C.T. MEMBERSHIP APPLICATION



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PHONE # _____

TYPE OF COMPUTER :
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